DOCUMENT RESUME

ED 176 489 EC 120 546

AUTHOR Cook, J. J.
TITLE Follow-Up Study of the Visually Impaired 1976. Monograph No. 5: Program Accountability in Special Education.
INSTITUTION Wisconsin State Dept. of Public Instruction, Madison.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
BUREAU NO 2070/5901
PUB DATE 76
GRANT 594149-74: D007600050 (449)
NOTE 30p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adjustment (to Environment); *Attitudes; Curriculum; Economic Status; Employment; Occupations; Personal Adjustment; *Program Evaluation; *Quality of Life; Social Adjustment; State Surveys; *Visually Handicapped; Vocational Adjustment
IDENTIFIERS *Wisconsin

ABSTRACT

To provide feedback on program for the visually impaired in the State of Wisconsin, a followup study was done on 98 persons who had been enrolled in such programs and who had been out of school for a period of 3 to 13 years. The study focused on adaptation, and was concerned with many facets of everyday living, including such things as academic achievement, types of occupations, physical mobility, difficulties in obtaining employment or promotions, use of vocational rehabilitation and other social services, attitudes toward educational and work expereinces, and social and community participation. Among the findirgs were that 57.1% of the Ss were single, 41.8% married, and 1.0% divorced; that 76 Ss did not have additional handicaps; and that more of the older Ss depended upon wages and spouse as a source of income, while significantly more of the younger Ss were dependent on their parents. Frequent comments by Ss emphasized such things as the inadequacies in curriculum offerings; the desire for more opportunity to interact socially and academically with sighted persons; the desire for less emphasis on music, particularly for those lacking talent in this area; and the desire for more vocational counseling and training with respect to job opportunities and strategies of job seeking. (DLS)

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MONOGRAPH SERIES

PROGRAM ACCOUNTABILITY IN SPECIAL EDUCATION

MONOGRAPH NO. 4S

FOLLOW-UP STUDY OF THE VISUALLY IMPAIRED

1976

Barbara Thompson, Ph.D., State Superintendent
Wisconsin Department of Public Instruction

Kenneth R. Blessing, Ph.D., Assistant
Superintendent
Administrator, Division for Handicapped Children

EC 120546

Follow-Up Study of the Visually Impaired

A Ten Year Follow-Up of Graduates From
Educational Programs for the Visually
Impaired in the State of Wisconsin

J. J. Cook, Ph.D.

The research reported in this publication was developed in part with funds from the State of Wisconsin under Title VI-B, Education of the Handicapped Act, under Grant Award No. 594149-74 and Grant Award No. D007600050(449), U.S. Office of Education and under the Federal Vocational Education Act, Project No. 2070/S901, entitled "Follow-Up Study of the Visually Impaired in Wisconsin."

The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

FOREWORD

The emphasis on evaluation as feedback and guide in the total accountability push is marked at this time in special education. The position taken here is that past efforts in the education of the visually impaired are neither all good nor all bad; what is needed is a balanced appraisal of what has benefited children in the past and to strengthen it; and that which has been less than beneficial to modify or phase out. The present follow-up study of adult visually impaired graduates of state funded programs was undertaken at the request of the State Superintendent and the Blind Advisory Committee in an attempt to provide information regarding the adequacy of programs as seen by recent graduates from these programs.

In line with the above philosophy, follow-up studies have been undertaken in the areas of EMR, TMR and the hearing impaired. A series of monographs have resulted from these endeavors and are available upon request from the Division for Handicapped Children, Wisconsin Department of Public Instruction.

Kenneth R. Blessing, Ph.D.
Assistant Superintendent
Department of Public Instruction
Division for Handicapped Children

ACKNOWLEDGMENTS

A great number of people participated in the continued attempts to bring this study to a successful closure. These people are to be thanked but listing them individually would be prohibitive. Instead a partial listing is herewith provided.

Project Director - Samuel D. Milesky, State Supervisor for Deaf and Visually Handicapped

Project Coordinator - John J. Cook, Coordinator of Research Design and Administration

Project Associate - Beverly Rappold

Resource Personnel

Wisconsin Advisory Committee on Education of the Blind
William English, Superintendent, Wisconsin School for the Visually Handicapped
Robert Okray, Principal, Wisconsin School for the Visually Handicapped

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EXPLANATORY NOTE

This project has been beset by a host of obstacles which will not be enumerated here, not the least of which is that the person responsible for writing up the document has been on a medical leave of absence for the past six months. A document has been forthcoming to fulfill the obligations of the funding agent within specified time lines. Thus, this document must be considered a truncated version of what could have been, given the time, personnel and funding.

Much more could be done with the considerable amount of data which were collected and analyzed. In order to maximize the use of these data, the heads of the appropriate university departments have been informed of the data's availability for student papers and dissertations. Complete confidentiality of the participants is assured because only the computer analyzed print-outs are available. Should further papers result, these will be distributed to the target audience.

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I. INTRODUCTION

The present study had as its goals the follow-up of persons who had been in educational programs for the visually impaired in Wisconsin and who had been out of school for a period of 3 to 13 years. This time span of 10 years was chosen so as to include recent dropouts as well as those who had completed school and had had a chance to become established in the society.

As a major thrust, the data collected were to provide feedback to educational and rehabilitation personnel on those aspects of their programs which appear to have a positive effect on the adaptation of the visually impaired and should, therefore, be strengthened; and on those aspects which appear to be benefitting the persons least and should, therefore, be modified or eliminated.

The follow-up was concerned with many facets of everyday living. Areas of interest included academic achievement, types of occupations, physical mobility, difficulties encountered in obtaining employment or promotions, geographic stability in terms of employment and home, present school training, use of vocational rehabilitation services and other social services, extent of underemployment, attitude toward past educational experiences, attitude toward work experiences, measures of success in home ownership, ownership of other material wealth, type of management of personal affairs, marital success and social and community participation.

Questionnaire Development

The questionnaire was developed, field tested and set up for direct key punching of the responses. The latter strategy necessitated many repetitious, multiple-choice items which resulted in a very bulky questionnaire. This approach to questionnaire development is not recommended when the survey is as extensive and complex as this one was. Two reasons are offered: the resulting extreme bulk (240 pages) of the questionnaire tends to frighten off interviewers and subjects (Ss); and the fact that due to the variety and complexity of questions asked, many responses cannot be anticipated anyway. Under more simple circumstances, a key-punch-ready format is no doubt desirable.

A number of options in the format of the questionnaire was developed--large print, braille and recording. The latter two modes were intended for the use of blind interviewers, several of whom it was hoped could be employed--two blind people indicated a willingness to become involved but in fact never gave an interview. In all, one interview was given using large print, one with a recording and three with the braille cards.

II. PROCEDURES

Sample Selection

A total of 730 subjects were identified who met the criteria of having been born between 1940-1955 and who had attended educational programs for the visually impaired in Wisconsin. Standard sampling procedures (see Krejcie and Morgan, 1970) were used with the degree of accuracy set at .05. At this level a random sample of 250 was indicated as adequate for purposes of generalization. Some 140 addresses only could be obtained on this number of persons; however, the original 250 names were retained since in the process of interviewing additional Ss are always located. The final number of Ss actually located and interviewed was 98. The reasons for the attrition were several: interviewers and interviewees did not keep appointments, subcontracts with a private firm were not fulfilled, Ss were just not able to be located and, perhaps most important, both money and time were lacking. Thus the generality of the data in the study to the target population of 730 does appear limited but the representativeness of the sample is examined in the Results section.

The Intervieving Process

Concomitant with the development of the questionnaire, an interviewer's manual was developed to be used in the interviewer training sessions and as a guide in the field. For illustrative purposes, the table of contents of the manual follows:

1. Sample Population Address List, By County
2. Key to Reading the Address List
3. Current Changes in Address List
4. Location of Unknowns
5. Sample Population - Unknowns List
6. Explanation of Survey
7. Cover Sheet Instructions
8. Cover Sheet Sample
9. Interviewing Procedure
10. Questions to be Answered by Others Only
11. High School Courses
12. High School Courses List
13. Interviewer's Assessment
14. Letter of Introduction
15. Sample of Letter Sent to Subject
16. Parts of the Eye
17. Diagram of the Eye
18. Terms Relating to Eye Function
19. Miscellaneous Terms Relating to Blindness
20. Causes and Types of Blindness
21. Appointments Calendar

The actual interviewing was subcontracted to a private firm with the project staff doing the interviewer training. The contractor was unable to fulfill the obligations of the contract so the project had to recruit and train its own people. Two dedicated interviewers were obtained and, in fact, did 80% of the interviews that were given personally. The pitfalls of subcontracting as experienced in the present project could and probably should be the basis of a separate paper on the topic.

In summary, 91 of the interviews were given person-to-person, one was completed over the telephone and six were mailed in.

Data Analysis

A major concern of the Advisory Committee to the project was that events had changed rapidly in education and services for the visually impaired during the time span covered by the project. Thus, the data analysis took the form of a two-way cross-tabulation with age as one

constant variable over all the other variables or items in the questionnaire. In this way, straight descriptive statistics could be obtained as well as some indication could be gleaned of those practices, etc. which have changed and those which have not.

III. RESULTS

Sample Characteristics

The analyses were a two-way breakout of age times the other variables in the study. In this section the age variable in relation to any of the other variables is discussed only when marked differences appear as a function of age. Otherwise, it can be assumed that the age variable made no difference and that only the total sample responses were of interest.

The age range of the 98 Ss at the time of the interview was 17 to 32 years with 39% of them being less than 23 years and 61% above 23. Twenty-three years of age (i.e., birthdate 1948) was considered the optimum point at which to split the sample so that the analysis could reflect program changes. For ease of presentation in the tables, the over 23 group are called "Old" and the under 23 group are called "New." Moreover, the tables consistently have the sequence Old-New to reflect the time frame of the Ss' involvement in educational program and/or other concerns.

This strategy can be demonstrated with respect to sex of the Ss:

Sex	Old	New	Total
Male	53.3%	60.5%	56.1%
Female	46.7%	39.5%	43.9%

This table suggests that the number of males entering educational programs for the visually impaired has been on the increase while the number of females has been on the decrease. The marginal total indicates the percentage of males and females in the sample.

The problem of statistical significance always arises in data of this sort. In this case the x^2 is 0.5 which is far from significant at the .05 level. Thus the noted trend with respect to sex is an essentially random phenomenon and means nothing within the sample, and by inference the target population of 730 Ss.

With respect to marital status, 57.1% were single, 41.8% married and 1.0% divorced. The percent married in the sample appears not different from a similar age group (14-34) as determined by the 1970 census when the percent was 43.4%. The ratio of divorces to marriages for the sample was .024 which is considerably lower than the overall ratio of .223 for the state as a whole in 1969. While there was no way of comparing the exact characteristics of the two groups, the statistics strongly suggest that a much stabler marital life characterizes the visually impaired.

With respect to race, 89% of the Ss were identified as white, in 4% of the cases the interviewers were uncertain and no information was available on the remainder.

Figure 1 shows the geographic distribution of the sample throughout the state as well as those who had moved out of state. In general, it would seem the state as a whole was fairly well represented with clusters coming from the more heavily populated areas where jobs and services are more available. Since only four of the 98 (4.1%) had moved out of state, limited residential geographical mobility appeared to be a characteristic of the visually impaired.

When asked to estimate the extent of their blindness, 34% of the 50 indicated they were blind, 46% partially blind and 20% sighted. These

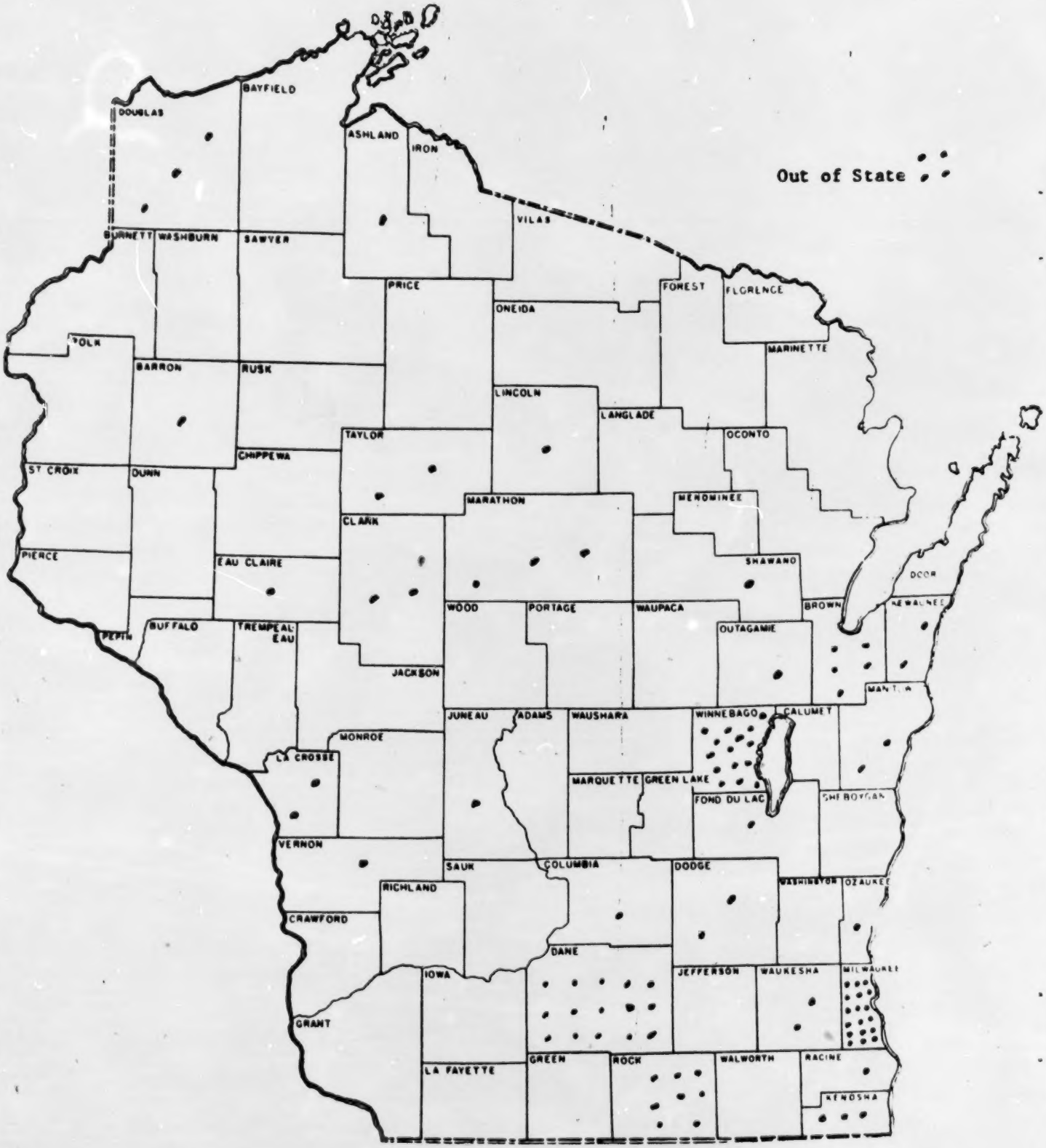

Fig. 1 Geographical Distribution of Sample

figures differ considerably from the information in the school files where 74% were categorized as blind, 13% partially blind and 13% sighted. This discrepancy suggests that some such concept as "functional blindness" might be introduced into the field and integrated with the present legal definition.

In discussion with the respondents and based upon their own observations, the interviewers were asked to indicate the number of additional handicapping conditions. Seventy-six Ss did not have any additional handicaps. In the school records, however 89 Ss had no additional handicaps. The handicaps present occurred with the following frequencies: hearing and speech impaired - 5, orthopedic - 2, retarded - 8, learning disabled - 6, emotionally disturbed - 2, allergics - 3, cerebral palsy - 2, and epilepsy - 2. Six of the Ss had two or more handicaps while two had three or more.

Age Variable Relationships

The Ss were asked what caused their blindness. Only 12 indicated they did not know. While some 30 different "causes" were described, these were readily collapsed into the four broad categories shown below:

Etiology	Old	New	Total
Acquired	26.4%	9.1%	19.8%
Hereditary	9.4%	0.0%	5.8%
Trauma	9.4%	9.1%	9.3%
Congenital	54.8%	81.8%	65.1%

Noticeable changes over the years appear to include a marked reduction in acquired blindness and an increase in congenital blindness. Trauma was quite unchanged while there was considerable reduction in hereditarial causes in the younger group. The relatively minor influence of hereditary factors as a cause of blindness is also reflected in Table 1 following:

TABLE 1

Prevalence of Visual Impairment Among Subjects' Families and Relatives

Relationship to Subject	Extent of Impairment: Sighted	Partially Sighted	Blind	Relevant N
Spouse	60.0%	27.5%	12.5%	40
Children	97.8	2.2	0.0	45
Parents	93.1	5.8	1.1	189
Siblings	88.4	10.2	1.4	295
Grandparents	96.5	3.2	0.3	3.6
Aunts and Uncles	96.7	3.2	0.1	757
Cousins	99.1	0.9	0.0	573

While slight, Table 1 does suggest some influence of blood ties in visual impairment, for the density of impairment both partially and totally is in the following order: siblings, parents, grandparents, aunts and uncles, children and cousins. Sixteen of the group had been told by doctors that their children would have vision problems.

The Ss were asked their sources of income. A number of the Ss had multiple sources so in the following table all sources are combined to provide a composite picture.

TABLE 2

Combined Source of Income

Source	Old	New	Total
Wages	62%	50%	57%
Parents	12%	50%	27%
Spouse	33%	8%	23%
Welfare	17%	8%	13%
SS Disability Aid	7%	8%	7%
Interest, dividends, etc.	8%	5%	7%
Other (savings, inheritance, VA pension, self-employed, college tuition and board-VR)	10%	21%	14%
N on which percentage based	60	38	98

More of the older Ss depended upon wages and spouse as a source of income while significantly more of the younger Ss were dependent on their parents. The finding that double the percentage of older Ss were receiving welfare is somewhat surprising although the finding that 50% of the younger Ss still depended on their parents for support could account for this difference.

TABLE 3

Percent Responding in Affirmative to Certain Areas of Responsibility

	Old	New	Total
1. Ever used a credit card	55%	24%	43%
2. Made out a check	60%	32%	54%
3. Deposited or withdrawn money from a bank	82%	68%	77%
4. Own a library card	40%	61%	48%
5. Voted in public election	63%	47%	57%
6. Made out own income tax	38%	13%	29%
7. Purchase clothing and personal items	90%	71%	83%

In general the older Ss appeared to be more socially responsible in the areas noted. The one exception was the ownership of a library card where 21% more of the younger Ss possessed one. Unfortunately, data were not available to contrast these percentages with those that might be obtained in a comparable sighted group.

TABLE 4

Type of Insurance Owned by Sample

	Group		
	Old	New	Total
1. Life	75%	66%	71%
2. Fire	60%	24%	46%
3. Car	47%	11%	33%
4. Health	82%	74%	79%
5. Home owner	57%	21%	43%

The trends in ownership of insurance are to be expected as a person gets older--his responsibilities increase and he is more apt to have insurance of various kinds. This is reflected in Table 4. The relatively low percentage owning car or fire and home owner insurance appear due to the fact that only 37% owned a car and 54% owned or rented a home.

Only 15 of the 98 indicated they had trouble getting insurance, and this was either life or health insurance. The major reason given for the difficulty was some form of discrimination because of blindness.

TABLE 5

Types of Jobs Held by Ss at Time of Interview

Job Category	Old	New	Total
Professional, Technical, Managerial, Proprietor	22%	16%	20%
Clerical, Sales and Kindred Work	11%	8%	9%
Craftsmen, Foremen and Operatives	11%	3%	7%
Service Workers and Laborers	38%	32%	36%
Not Working	18%	43%	27%

In Table 5 are shown the various jobs held by the visually impaired Ss at the time of the interview. The high figures for "Not Working" are somewhat deceptive insofar as of the total sample, 43% were female and 42% married. However, it does appear that a disproportionate number of the younger Ss, even though in the labor force, were without jobs at the time of the interview (1973).

The differences in types of jobs held by the older (above 23 years of age) and the younger or New (below 23 years of age) was minimal

with the exception of the Craftsmen-Foremen group. Here, however, union contracts and conditions as they relate to longevity and pay could be considered a determining factor as in any other group of workers. This longevity factor as it relates to pay at least stands out in Table 6 in which it is apparent that twice as many of the older workers were receiving the higher wage rates.

TABLE 6

Hourly Wages Earned by Working Ss

Wages/hr.	Old	New	Total
$1 - $1.99	11%	6%	10%
2 - 2.99	41%	71%	49%
3 - 3.99	27%	12%	23%
$4.00 +	21%	12%	18%

The age by other variable breakout was done on all the information collected in the questionnaire. However, to present these analyses would simply inundate the reader with a series of tables which would make the report quite unwieldy and very frustrating to examine. The printout of these analyses are available upon request by the interested reader.

Moreover, examination of the analysed data and the subjective reports of both interviewers and Ss indicated a marked congruence in terms of conclusions arrived at. Therefore, the next section comprising the qualitative results of the study can be considered, to a great extent, a summary of the additional data which were analyzed.

Qualitative Results

The questionnaire was structured in such a way that open-ended spontaneous comments could be obtained from the interviewee, typically

toward the end of the interview after rapport had been established with the Ss. In addition, the interviewer was asked to provide their subjective impressions and observations in a number of areas. Rather than burden the reader with the verbatim responses and observations, an attempt is made to categorize and summarize the various responses and observations.

As noted previously, the questionnaire content had been forced into a computer-compatible format against the wishes of the author and the project personnel. With a group other than the visually impaired, such a strategy would have made sense since the questions could have been read and quickly answered. Tape presentations of the questionnaire to the Ss proved totally inadequate because of the time factor and the lack of human interaction with the Ss which it turned out was the crucial factor in getting any extensive information at all.

In passing, it should be noted that a rather detailed opinionaire was administered regarding the visually impaired person's view of aspects of his life style and environment. Due to the aforementioned constraints in time, money and personnel, this aspect of the study is omitted in this report.

The reader is also reminded of the time factor intervening between the interview and the school years. Changes in education have been considerable in the past several years, yet it is also true that much has remained the same. Perhaps the least this report can hope to do is reinforce the ongoing activities of enlightened educators of the visually impaired.

The interviewees (i.e., Ss) were asked two open-ended questions pertaining to education; the responses to which can be collapsed into

one categorized breakout. The questions were: 1.) "What improvements would you like to see in the educational programs that are offered to the visually handicapped person?" and 2.) "This is the end of the educational section. Do you have any additional comments you would like to make here?"

Categorized responses in terms of frequency of occurance were:

1.) Inadequacies in curriculum offerings which covered a host of areas:

- lack of courses in banking, taxes, use of credit cards, establishing credit, making purchases, insurance and other areas of a more-or-less business nature, was a primary concern.

- more relevant training in home economics, such as measuring ingredients, cooking roasts and fowl, canning, slicing and serving meats, etc.; preparing table settings and taking care of an apartment.

- more stress on communication in all its aspects, such as penmanship, speech, appropriate use of gestures, grammar and foreign languages.

- an expressed lack of challenge in many of the course offerings, most often expressed by those apparently going on to further training in college.

2.) More opportunity to interact socially and academically with sighted students was frequently expressed.

3.) Personal hygiene, self-care, grooming and elimination of "blindisms" were felt to be neglected areas.

4.) Less emphasis on music, particularily for those who lack talent in this area.

5.) More vocational counseling and training with respect to job opportunities and strategies of job seeking.

6.) Sex education was mentioned on several occasions as an area of need.

7.) A few comments were made regarding non-committed teachers as well as the desire for only sighted teachers except for music instructors.

8.) Correspondence courses should be made available to the blind through University Extension or other forms of continuing education. There was expressed a concern about the lack of knowledge about resources generally available to the blind as such and as citizens of the state.

The interviewers were asked to respond to the question "Do you feel the subject could benefit from some community or state agency support, over and above what he presently may be receiving?"

Eighteen of the subjects were commented on by the interviewers. The same underlying theme came through in the majority of cases. Here was an individual who was intelligent, motivated, but not achieving vocationally up to his potential yet was unable to find the wherewithal to do so. The names of these people plus others with more obvious physical and psychological needs were passed on to the appropriate state agency as part of the overall project strategy.

The interviewers were also asked to respond to what is obviously a very hypothetical question, "If you were an employer, was there anything about the appearance of the subject that would create a poor impression?"

The interviewer's comments here were either relatively noncommittal, i.e., "no", or positive even in the few cases where the subjects manifested behavioral aberrations such as constant eye movements or other atypical behaviors associated with attendent handicaps such as cerebral palsy. "Blindisms" such as eye gouging, rocking, head turning, etc. were apparently not in evidence in the subjects who were interviewed.

The interviewers were asked to provide information regarding the adequacy of the questionnaire and the interviewing process itself from their own, as well as the subject's point of view.

1.) The partially sighted tended to see the questionnaire as somewhat irrelevant as their self-image was that of a sighted person and they had no desire to be categorized as "blind," in spite of (or because of?) having attended a school for the visually impaired.

2.) In spite of the tediousness of responding to the questionnaire, the majority of the subjects saw the interview as a beneficial opportunity to relate to and talk about their past and present experiences as a "visually handicapped" person.

3.) The interviewers had had little if any contact with visually impaired or blind people previously, thus it came as a surprise to realize how well many of the Ss were coping as parents, as businessmen and as workers or helpers around the home.

IV. DISCUSSION AND IMPLICATIONS

A basic problem inherent in this study is the extent to which the 98 Ss were indeed representative of the total group of 730 graduates from programs for the visually impaired during the 10 year period under study. Geographically, and in terms of marital status, evidence was available that the sample was fairly representative of the state of Wisconsin as a whole. Some difficulty exists in forming similar generalizations on these and other variables to the visually impaired target population of the study. Thus, the following discussion is about the 98 Ss in the study with generalizations to the 730 being, at best, hazardous. Within these limits, the following findings can be noted and where feasible, programmatic changes which could ensue in theory if not in practice.

Male visually impaired outnumbered female and this difference appeared to be increasing over time. The major impact of this finding would seem to lie in planning for future residential facilities should the trend continue.

A marked reduction in acquired visual impairment in the younger Ss could be, it would seem, attributed to the marked reduction in retrolental fibrosis due to overuse of oxygen at birth, the effects of which became apparent in the late fifties and early sixties. The fact that none of the Ss in the younger group saw heredity as a causative factor while 9.4 % of the older group did, does raise some questions regarding the attitudinal factors involved even though our data do suggest a slight familial influence.

In general, the older group appeared more socially responsible in terms of using the modern-day facilities available--credit cards, insurance, voting, etc. These skills were apparently acquired rather than taught in school as subsequent discussions of needs in education shows.

While only 15% of the Ss indicated that they had trouble obtaining insurance, this figure could be deceptive in that only one-third owned a car and about one-half owned or rented a house. Thus, it seems likely that few reported difficulties because no attempt was made to obtain these types of insurance.

Few differences were noted in types of jobs held by the older and younger Ss. However, when one looks at the jobs held by the visually impaired and the total state population, certain differences do stand out.

	Visually Impaired	Sighted
Professional, Technical, Managerial, Proprietor	28%	26%
Clerical, Sales and Kindred Work	13%	22%
Craftsman, Foreman and Operatives	10%	33%
Service Workers and Laborers	49%	19%

The data for the sighted group is based on the 1970 U.S. Census and includes all workers in the state 16 years and older. Since the sample did not exceed 34 years of age, certain biases insofar as age affects occupational placement is involved in the comparisons. Certain trends appear to stand out however. The visually impaired seem to be about equally represented in the higher level occupations (Professional, etc.),

but noticably under-represented in the Clerical, etc. and Craftsmen, etc. occupations due in all liklihood to the nature of the handicap. However, the finding that half of the visually handicapped sample (as opposed to 19% of the state total) were employed as service workers or laborers suggests that considerable underemployment at other than the professional level does exist among the visually impaired.

Other quantitative and qualitative data in the area of education indicated that, with the present sample at least, a marked lack of formal training that would prepare them to cope in the world of the sighted as it pertains to independent living, mobility and general use of facilities and services routinely needed and used by the sighted. In the more conventional course offerings, it was felt that too many of them were "watered down" and did not present sufficient challenge. A number of curriculum-educational changes were suggested and are noted in the "Results" section.

As a tentative conclusion, a reading of the data suggests that every effort should be made to integrate with the sighted the academic activities of the visually impaired. The responses suggested this orientation should be taken in most if not all activities. The informed educator of the visually impaired must determine the feasibility of this strategy, in part or wholly, for himself and the political, physical, economic, etc. constraints under which he has to work.

Finally, several experiences in conducting this study suggest the following:

1.) Subcontracting aspects of a project where fairly rigid time lines are involved must be considered an area of major concern with default penalties specifically built into the contract, quality control religiously maintained, and the overall capabilities

of the contractor based on past performance carefully scrutinized in spite of verbalization to the contrary.

2.) As noted previously, a detailed computer-compatible format is a questionable approach to use with the visually impaired.

3.) Subject location procedures of the visually impaired other than, or in addition to, those used in the present study are needed.

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